REMARKS

Applicant respectfully requests reconsideration of the present application in light of new claims 81-89 and the following remarks.

With respect to the rejections based upon the Harvey reference, Applicant respectfully submits that the method disclosed in the Harvey reference does not render Applicant's claimed invention obvious. Harvey's method requires a system---in fact, a mesh network of communicating access points---in order to detect an interloper. No one access point can do this independently, because the Harvey method proposes to locate clients by triangulation (see Figures 4 and 5 of Harvey). An access point measures the received signal strength of a signal from the client, translates the received signal strength into a path loss, and then translates the path loss into a range radius for the distance between the client and the access point. Therefore, the client's location is only known to reside on the circumference of circle a given radial distance from the access point---given measurements from only one access point. As illustrated in Figure 5 of Harvey, the intersection of three such circles in space identify a point in space, so this method of 'triangulation' requires at least three access points. As Harvey readily admits in paragraph 102, an access point in his method/system can only determine direction by received signal strength using measurements from multiple access points.

In contrast, Applicant's present invention only requires a single access point---a single apparatus. The presently claimed beamforming array-appointed access point <u>does not</u> attempt to localize a client in space. The present invention monitors propagation

arrival directions, to create "received-signal-characteristics." These profiles are actually distributions (see our Figure 10).

New claim 83 recites types of received-signal-characteristics which are logged and monitored. These include: arrival delay, arrival direction, offset in arrival directions for multipath, carrier frequency offset, and direction-indexed path signal strength.

New claims 84 and 85 relate to Applicant's use of histograms to represent distributions of the received-signal-characteristics.

Harvey bases interloper detection on nonlinear functions of averaged received signal strength, rather than histograms, so in practice Harvey's method would have much more trouble discriminating modes of interloper operation than Applicant's presently claimed invention. As is well known in the statistics literature, outlier detection methods based on averages are much less sensitive than ones based on distributions. Harvey cannot cross-index by direction of arrival/location, since that is his y-axis quantity. Therefore, Harvey has no way of replicating the quality of Applicant's distribution estimates indexed by direction-on-the-x-axis. If with Harvey's method, one were to create a histogram for each access point, with received signal strength on the x-axis, and then attempt to merge the three histograms into directional estimates with a formula, one would run into a road block. Namely, which received signal strength bin for access point-one should be associated with which received signal strength bin for access point-two? Contrary to the assertion in the previous Office Action, effectively merging Harvey with histogram methods would not have been obvious to one of ordinary skill in the art in light of Harvey at the time of Applicant's invention.

Claim 86 recites that the histograms age-out old data, so that the distributions reflect operation over sliding time windows.

CONCLUSION

Applicant respectfully submits that all pending claims are now in condition for allowance.

Respectfully submitted,

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